



# UNITED STATES PATENT AND TRADEMARK OFFICE

45  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,521	02/06/2002	Sanjay Shyam	SJO920010051US1	2891
29683	7590	05/18/2006	EXAMINER	
HARRINGTON & SMITH, LLP 4 RESEARCH DRIVE SHELTON, CT 06484-6212			MCLEAN MAYO, KIMBERLY N	
			ART UNIT	PAPER NUMBER
			2187	

DATE MAILED: 05/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<p style="text-align: center;"><b>Office Action Summary</b></p>	<b>Application No.</b> 10/072,521	<b>Applicant(s)</b> SHYAM ET AL.	
	<b>Examiner</b> Kimberly N. McLean-Mayo	<b>Art Unit</b> 2187	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 February 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5-7, 12-14 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-7, 12-14 and 19-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)<br>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)<br>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____<br>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)<br>6) <input type="checkbox"/> Other: _____ |
|--|--|

### DETAILED ACTION

1. The enclosed detailed action is in response to the Amendment submitted on February 16, 2006.

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 5, 12 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Niles et al. (PGPUB: US 2003/0135709).

Regarding claims 5, 12 and 19, Niles discloses selecting a new storage volume (by selecting a segment from volume B or C in the first storage group from the free list) from a first plurality of storage volumes that constitute a first storage group (first group comprised of volumes A, B and C in Figure 4, Reference 225) in response to encountering an end of a current storage volume (section 0085, lines 29-41 and section 0086); and if unsuccessful in selecting a new storage from the first storage group (unsuccessful when the end of an allocated disk area on a current drive has been reached; refer to section 0041), selecting another new storage volume from a second plurality of storage volumes that constitute a second storage group (storage volumes located on another physical drive, refer to section 0041); and linking the second group as an extend-

Art Unit: 2187

to-new (expansion) volume group for end of volume encounters of the first plurality of storage volumes of the first group (section 0041, section 0038, lines 6-14, section 0047, lines 7-20). Regarding claim 19, Niles discloses a software driver (computer program) performing the above features (section 0069).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6-7, 13-14 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niles (PGPUB: US 2003/0135709).

Regarding claims 6, 13 and 20, Niles discloses the limitations cited above, however, Niles does not explicitly disclose a plurality of expansion volume storage groups. Niles discloses that physical storage can be added to the system when an actual memory capacity increase is required [section 0047] and thus it is evident that more than one physical drive (and thus more than one volume group) can be added to the system to further increase the memory capacity, thereby providing a plurality of expansion volume storage groups. Niles discloses that the new drives are divided into segments per volume (Figure 4, Reference 225; section 0038) and linked to the other drives (section 0047), thus establishing a group of volumes for the newly added drive. Hence, it would have been obvious to one of ordinary skill in the art to add a plurality of drives (expansion volumes) to the system taught by Niles for the desirable purpose of increasing the (actual)

Art Unit: 2187

memory capacity. Additionally, Niles' system is capable of selecting a new storage volume from one or more of the plurality of extend-to-new storage volume groups by selecting a corresponding segment from the extend-to-new storage volume group from the free list.

Regarding claims 7, 14 and 21, Niles discloses that the plurality of extend-to-new volume groups are available for selection according to a priority (next available; refer to section 0044 and section 0046).

### ***Response to Arguments***

6. Applicant's arguments filed February 16, 2006 have been fully considered but they are not persuasive.

Regarding Applicant's arguments with respect to Niles et al., the Examiner disagrees. Niles teaches linking a new storage device to first storage volume when the first storage volume has reached full capacity; this feature is functionally equivalent to Applicant's linking a second volume group to a first volume group when the first volume group reaches the end of its storage. The Applicant's use of terminology is different from the prior art but the functionality is the same.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2187

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly N. McLean-Mayo whose telephone number is 571-272-4194. The examiner can normally be reached on Mon, Wed, Thurs (10-4), Tues (9:45 - 6:15).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on 571-272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

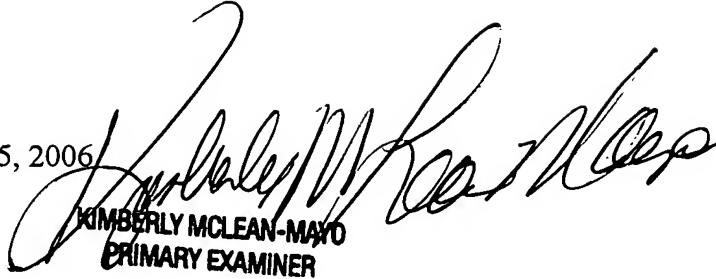
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2187

Kimberly N. McLean-Mayo  
Primary Examiner  
Art Unit 2187

KNM

May 15, 2006



KIMBERLY MCLEAN-MAYO  
PRIMARY EXAMINER